



Product Updates and Service Improvements from the Storm Prediction Center (SPC)

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spc.noaa.gov

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National Severe Weather Workshop March 1-3, 2012



Storm Prediction Center

- Improvements and new web features related to the communication of high-impact weather threats
 - Available on the SPC website: **spc.noaa.gov**

- Product format changes for Mesoscale Discussions and Day 4-8 Convective Outlook
- Web Tools to aid monitoring and decision support SPC Mesoanalysis and SREF
- Facebook and Multimedia Briefings
- Post-Event and Preparedness Videos "What's a Watch?"

Mesoscale Discussions

• The SPC will soon increase information structure within its Mesoscale Discussions to more efficiently convey critical forecast information

- Attributes common to the first paragraph of severe convective MDs will be provided in a standardized format
 - Type of threat
 - Timing and evolution
 - Probability of watch issuance





New Mesoscale Discussion Format

For Severe Potential MCDs (Pre-Watch)

<u>TIME OF SEVERE STORMS</u>...After [time to nearest hour] or "Ongoing"

PROBABILITY OF A WATCH ISSUANCE...XX%

[increments of 20% from 20-80%, with <5% and >95%]

Example: <5 and 20% for Unlikely, 40% and 60% for Possible, 80% and >95% for Likely, >95% for Needed Soon

<u>SUMMARY</u>...A concise one or two sentence headline regarding the forecast (mode, coverage, and intensity) severe threat.

(Similar to current first paragraph)

<u>DISCUSSION</u>...The description of significant mesoscale features and atmospheric processes which will likely result in the expected event. (Similar to current main text body)





Example of New Pre-Watch MD Format

MESOSCALE DISCUSSION 2046 NWS STORM PREDICTION CENTER NORMAN OK 0247 AM CST TUE NOV 16 2010

AREAS AFFECTED...THE FL PANHANDLE

CONCERNING...SEVERE POTENTIAL...WATCH POSSIBLE

VALID 160847Z - 161115Z

TIME OF SEVERE STORMS...AFTER 10Z

PROBABILITY OF A WATCH ISSUANCE...40 PERCENT

SUMMARY...SHORT-LINE SEGMENT MAY GROW UPSCALE AND BRUSH COAST WITH ATTENDENT INCREASE IN SEVERE THREAT.

DISCUSSION...CONVECTIVELY ENHANCED BOUNDARY STRETCHES FROM SOUTH OF APALACHICOLA WWD AND INTERSECTS A NE-SW ORIENTED BAND OF THUNDERSTORMS EXTENDING FROM SOUTH OF GULF SHORES SWWD TO JUST OFF SERN TIP OF LA. ACTIVITY IS DEVELOPING WITHIN A PRE-FRONTAL CONFLUENCE ZONE ASSOCIATED WITH A STRENGTHENING SWLY LOW-LEVEL JET. THIS FEATURE WILL DEVELOP NWD THROUGH THE WRN FL PANHANDLE INTO AL AS PRIMARY SURFACE LOW DEEPENS AND LIFTS NWD INTO THE TN VALLEY IN RESPONSE TO FORCING ASSOCIATED WITH NEWD EJECTING VORT MAX. BUOY OBSERVATIONS SHOW A RESERVOIR OF 70F DEWPOINTS OVER THE NRN GULF SOUTH OF E-W BOUNDARY. THIS FEATURE WILL MOVE SLOWLY NWD AS THE LOW LEVEL JET STRENGTHENS...AND IS ALREADY APPROACHING THE COAST NEAR APALACHICOLA. REMAINING PORTIONS OF THE BOUNDARY WILL LIKELY NOT MOVE INLAND UNTIL AFTER 11Z. BOUNDARY LAYER DESTABILIZATION AND POTENTIAL FOR SURFACE BASED STORMS WILL INCREASE MARKEDLY WHERE THE MOIST WARM SECTOR MOVES ONSHORE....WHILE LARGE HODOGRAPHS ACCOMPANYING THE LOW-LEVEL JET WILL PROMOTE SEVERE POTENTIAL. HOWEVER...THE COASTAL BOUNDARY WILL MAKE ONLY LIMITED INLAND PROGRESS THIS MORNING SUGGESTING THE THREAT AREA SHOULD REMAIN SMALL.



.DIAL/MEAD.. 11/16/2010



Day 4-8 Convective Outlook

- Likely that standardized headlines will soon be used to clearly highlight whenever a major widespread severe weather outbreak is forecast
 - Expectation of a high-end Day 4-8 area becoming Moderate Risk on Day 3 and eventually a Tornado High Risk by Day 1 (assuming the forecast scenario remains largely unchanged)
 - Used rarely a few times a year?
- Widespread tornado outbreak headline example:
 - "Major Severe Weather Outbreak Possible on D4
 /Thursday/" (or D4 /Thursday/ and D5 /Friday/)



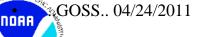


Example of Day 4-8 Standardized Headline

DAY 4-8 CONVECTIVE OUTLOOK NWS STORM PREDICTION CENTER NORMAN OK 0350 AM CDT SUN APR 24 2011 VALID 271200Z - 021200Z

...MAJOR SEVERE WEATHER OUTBREAK POSSIBLE D4 /WEDNESDAY/...

...DISCUSSION... WIDESPREAD CONVECTIVE/SEVERE WEATHER EVENT -- ONGOING FROM THE DAY 3 /TUE. 4-26/ PERIOD -- IS LIKELY TO CONTINUE SPREADING EWD ACROSS THE OH/TN VALLEYS AND GULF COAST STATES DAY 4 /WED. 4-27/...AS MEDIUM-RANGE MODELS BOTH FORECAST EWD PROGRESSION OF THE LARGE CENTRAL U.S. TROUGH. AS THE COLD FRONT SHIFTS EWD TOWARD THE APPALACHIANS THROUGH THE AFTERNOON AND EVENING...PRE-FRONTAL WARM SECTOR FEATURIHNG MODERATE INSTABILITY AND STRONG DEEP-LAYER SHEAR WILL SUPPORT CONTINUATION/REDEVELOPMENT OF SEVERE STORMS INTO THE AFTERNOON AND EVENING. POTENTIAL FOR SUBSTANTIAL SEVERE WEATHER -- INCLUDING HAIL/WIND AND ISOLATED TORNADOES -- SUPPORTS CONTINUATION OF A LARGE SEVERE WEATER THREAT AREA FOR DAY 4. MODEL TIMING WITH RESPECT TO THE SURFACE FRONT AND ASSOCIATED UPPER TROUGH BEGINS TO DIFFER MORE SUBSTANTIALLY DAY 5 /THU. 4-28/...THUS CASTING SOME UNCERTAINTY WITH RESPECT TO LOCATION AND DEGREE OF THREAT E OF THE APPALACHIANS DAY 5. THEREFORE...WHILE POTENTIALLY SEVERE CONVECTION WILL LIKELY SPREAD ACROSS THE ATLANTIC COAST STATES SOMEWHERE BETWEEN LATE IN THE DAY 4 PERIOD AND THE AFTERNOON AND EVENING OF DAY 5...WILL NOT HIGHLIGHT A SPECIFIC THREAT AREA THIS FORECAST. WITH THE FRONT EXPECTED TO HAVE SWEPT OFFSHORE BY THE START OF DAY 6 /FRI. 4-29/...FOCUS SHIFTS WWD AS THE NEXT SYSTEM SHIFTS ACROSS/OUT OF THE ROCKIES. MODELS ARE IN MORE SUBSTANTIAL DISAGREEMENT WITH THE EVOLUTION AND PROGRESSION OF THIS FEATURE...AND THUS WILL NOT HIGHLIGHT ANY LONGER-RANGE THREAT AREAS THIS FORECAST.











N C E P

SPC Tools to Aid Monitoring and Decision Support

WHERE AMERICA'S CLIMATE AND WEATHER SERVICES BEGIN



Storm Prediction Center



Local forecast by "City, St" or "ZIP"

City, St

NCEP Quarterly Newsletter

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Watch/Warning Map **National RADAR Product Archive** Norman, OK WX NOAA Weather Radio Research Non-op. Products

Forecast Tools Svr. Tstm. Events **SPC Publications** SPC-NSSL HWT Education & Outreach About the SPC SPC FAO **About Tornadoes About Derechos WCM Page** Enh. Fujita Page **Cool Images Our History Public Affairs** Misc.

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Forecast Tools

Upper Air | Soundings | Mesoanalysis | SREF | FireWX Compmaps | Compmaps

Upper Air Maps



Maps and derived fields based on twice daily (00 and 12 UTC) radiosonde data over the continental U.S.

Observed Sounding Analysis

Skew-T charts for all observed soundings across the United States. Many experimental forecast tools and parameters are shown.



Organization

Mesoanalysis Graphics

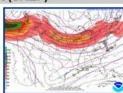


new updates coming

Severe weather analyses updated hourly and usually centered on an SPC risk area.

Short-Range Ensemble Forecast (SREF)

The SPC Short-Range Ensemble Forecast (SREF) is produced by postprocessing the 21 members NCEP SREF plus the operational WRF-NAM for a total of 22 members. Special emphasis is placed on high-impact, mesoscale guidance.



Fire Weather Composite Maps



Forecast and observational maps for various fire weather variables based on the NAM and RUC models.

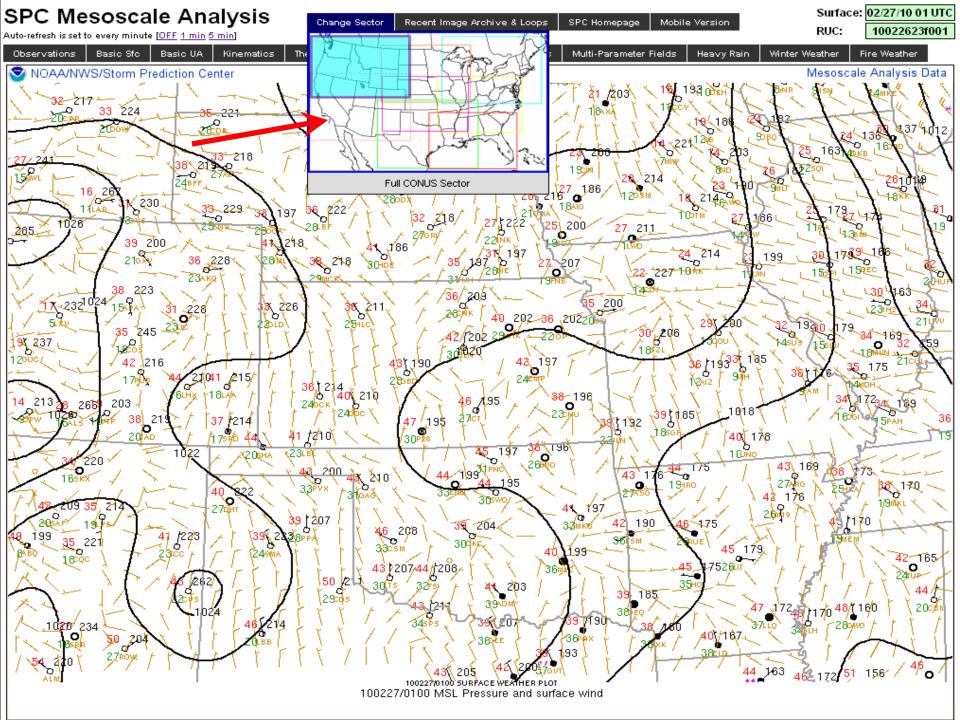
Compmap

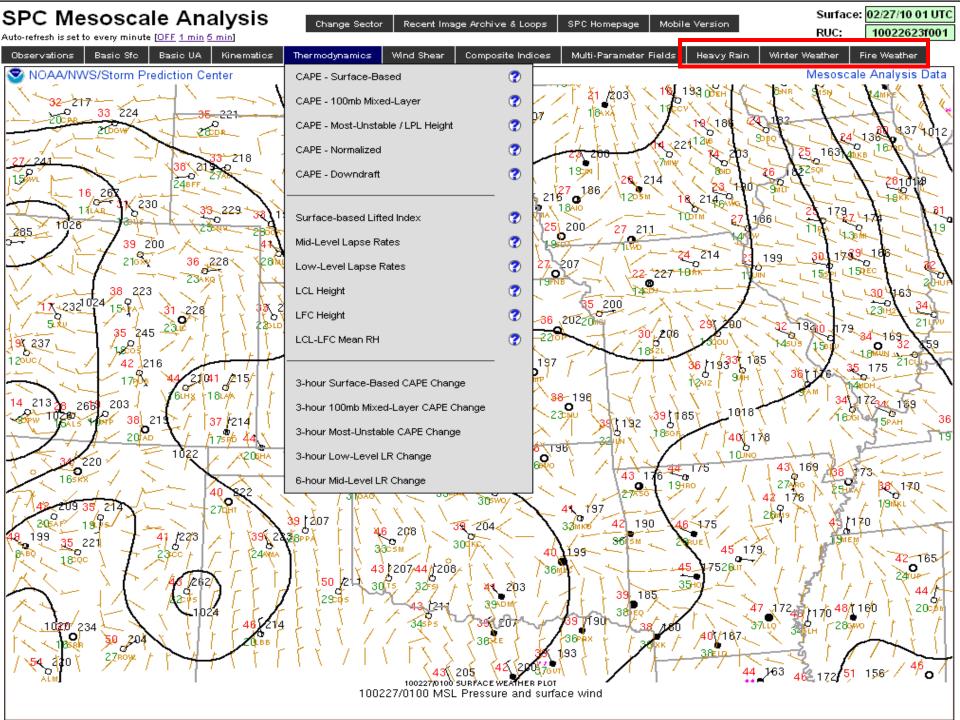


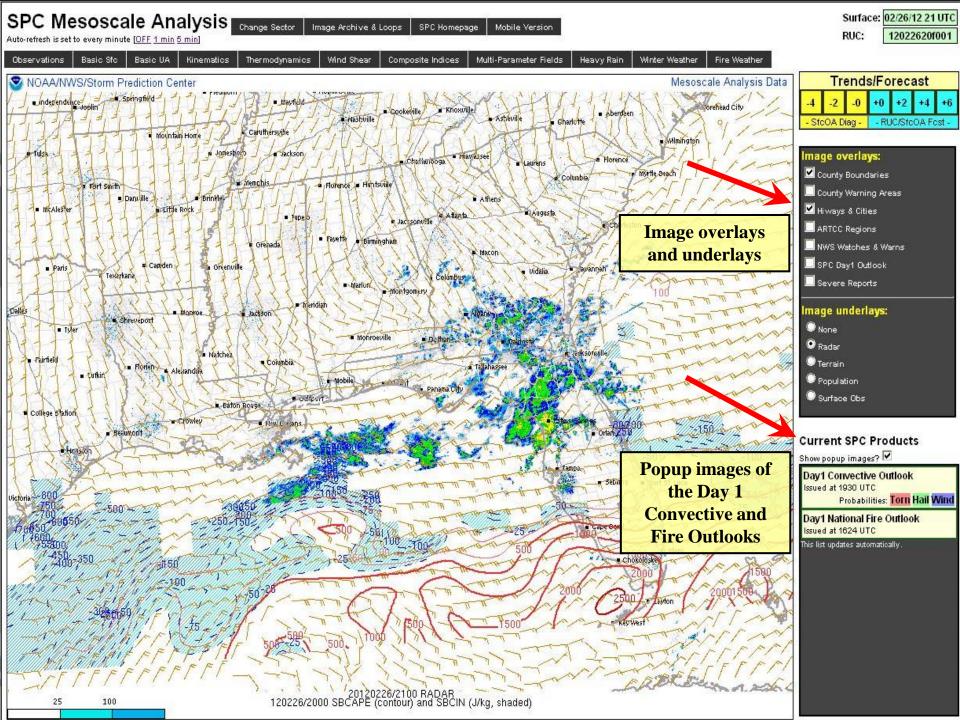
spc.noaa.gov

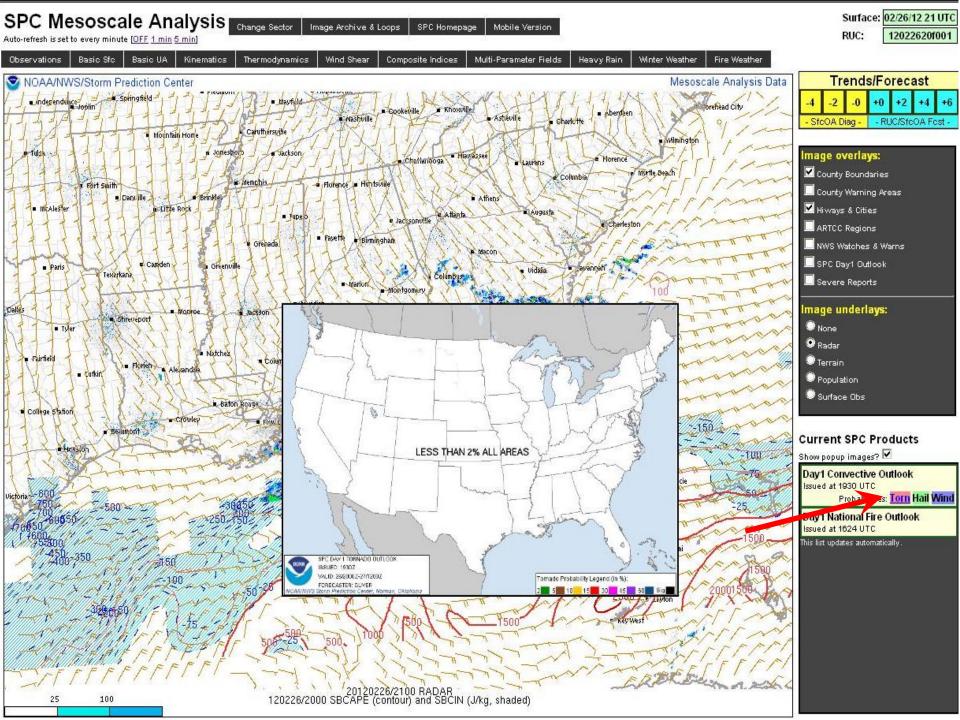
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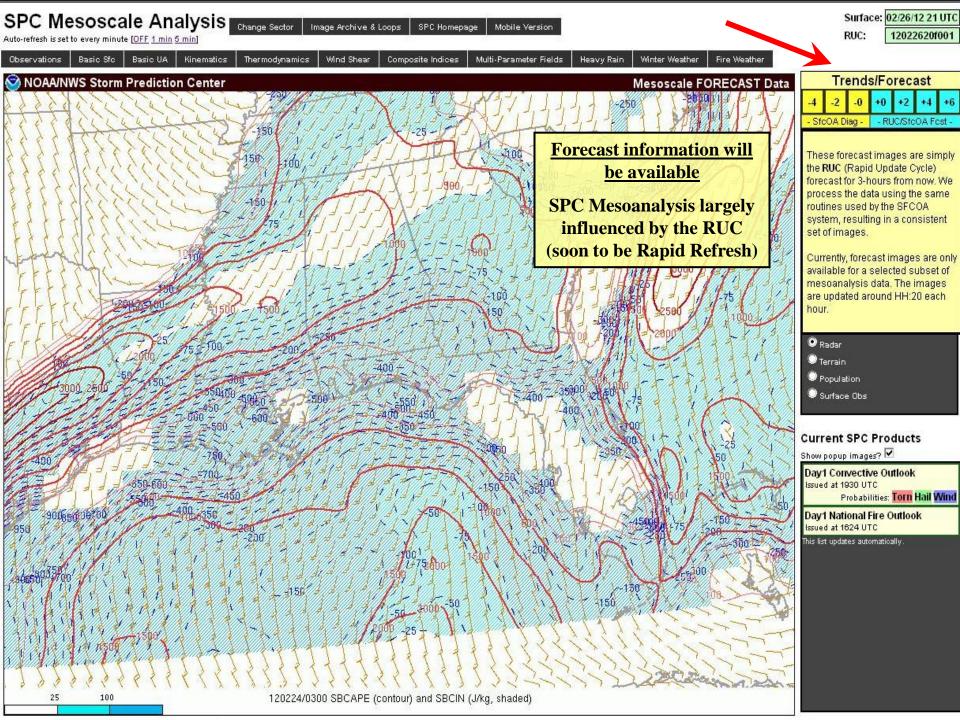
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Ensemble Guidance at the SPC

- Develop specialized model guidance based on NCEP SREF
 - Severe, winter, fire, and heavy rainfall
- Design guidance that
 - Incorporates larger-scale environmental information to yield downscaled probabilistic guidance
 - Aids in decision support of high impact weather
 - Gauge confidence
 - Alert for potentially significant events
 - Plume diagrams
 - Useful for point-specific decision support









Local forecast by "City, St" or "ZIP"

Current Watches Meso. Discussions

Fire Wx Forecasts

Watch/Warning Map National RADAR Product Archive Norman, OK WX

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Upper Air Maps



Site Map

Maps and derived fields based on twice daily (00 and 12 UTC) radiosonde data over the continental U.S.

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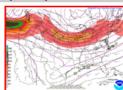
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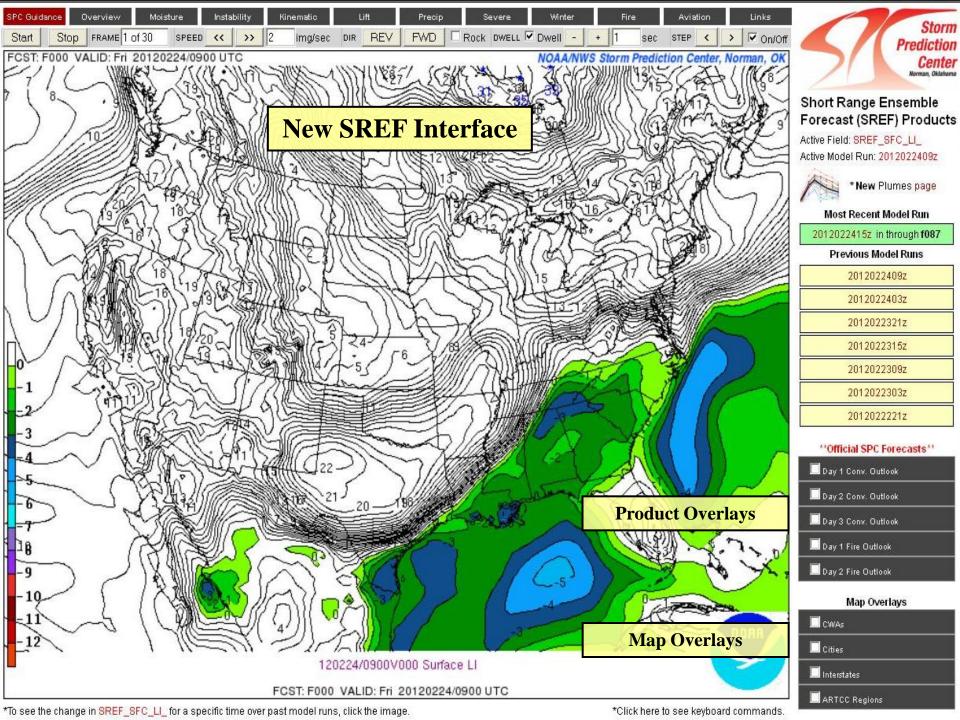
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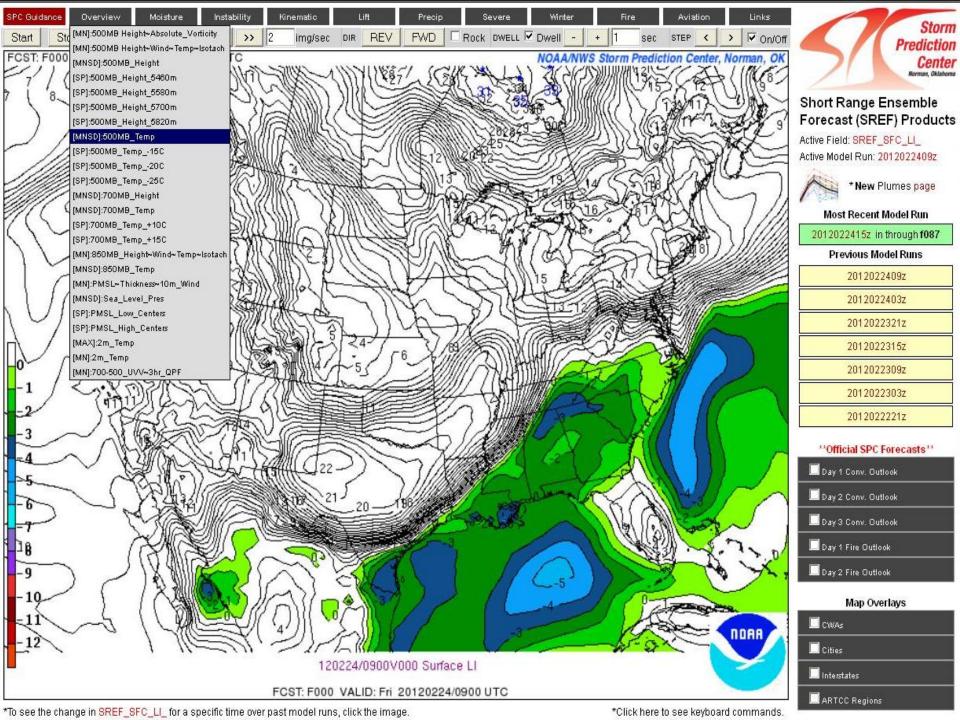


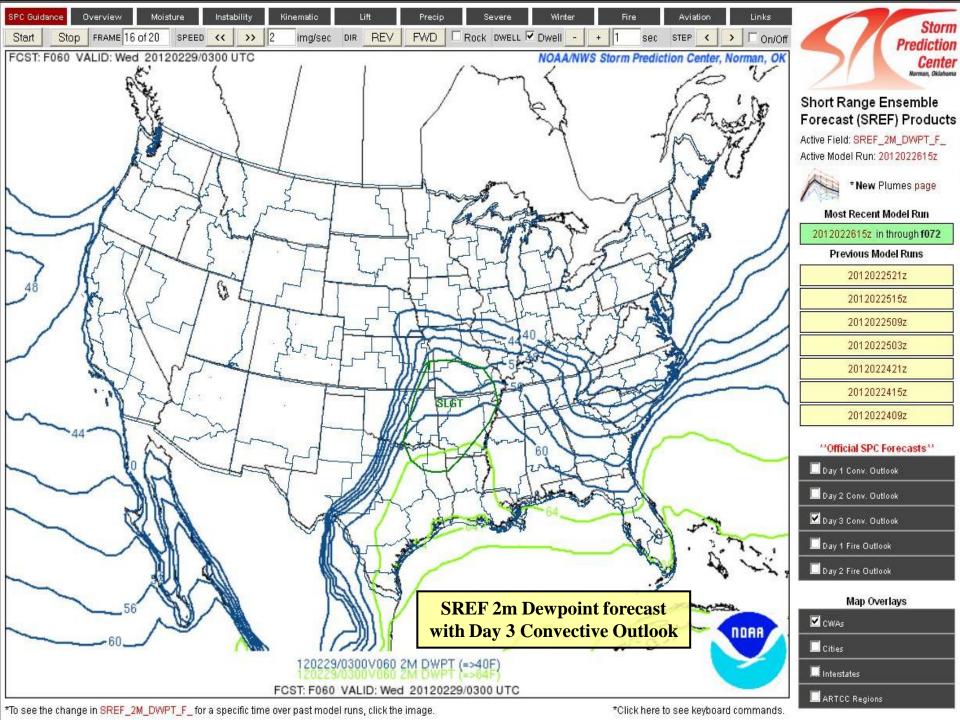
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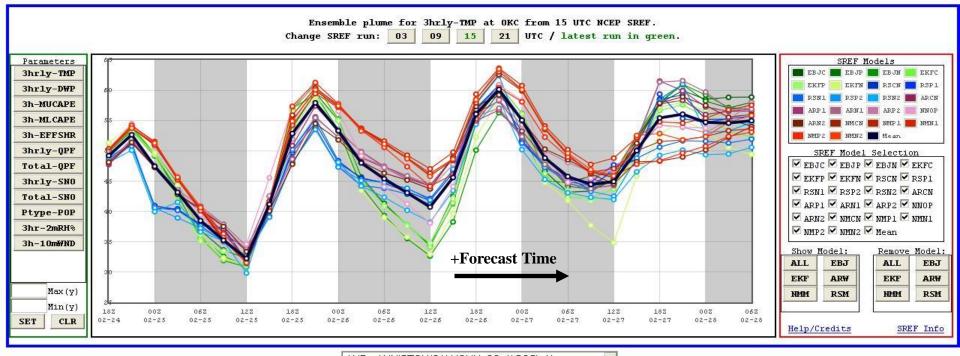
Compmap





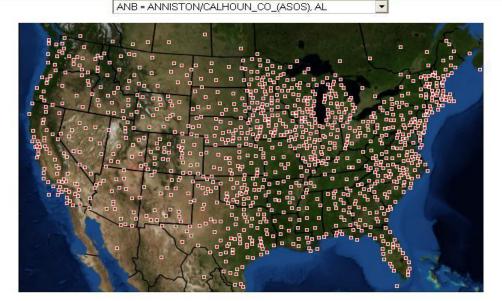






SREF point-specific Plumes for selected fields

QPF, CAPE, Snow, RH, Temp, Dewpoint etc.



Ability to view and toggle on/off individual SREF members

Back to SPC SREF Page Back to SPC Front Page







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Supplemental Communication Formats

WHERE AMERICA'S CLIMATE AND WEATHER SERVICES BEGIN

STORM PREDICTION CENTER



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This page is an experimental service provided by NWS to explore the use of...

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NOAA NWS Storm Prediction Center

We are forecasting the development of severe thunderstorms with the possibility of widespread damaging winds as well as tornadoes from parts of the southeast U.S. to the Mid-Atlantic region today into this evening. The greatest risk for severe storms will be across eastern sections of the Carolinas into southern and eastern Virginia -- as noted by the red-shaded "Moderate Risk" area in the graphic. As of mid-morning, two Tornado Watches have already been issued for portions of the region. http://www.spc.noaa.gov/





 $\underline{\mathfrak{g}^{\mathcal{A}}}$ Michael Erdman, Michael Anthony Rackoff, Danielle Widdel and 26 others like this.









Allison Hatcher stay safe 3 hours ago



Stephen Ward Warm, windy and overcast in Calabash, NC. Severe TS warning until 7 p.m. No golf today.

3 hours ago



NOAA NWS Storm Prediction Center

For those that live in the Ohio/Tennessee Valley regions, there is a severe threat this afternoon and evening that includes the potential for damaging winds and tornadoes (especially across the Ohio Valley). The severe risk may continue into Friday across the Southeast U.S. Additionally, a critical fire weather threat also exists today across a large part of southwest Texas and southeast New Mexico.



Want to like or comment on this page?

Create a Page

To interact with NOAA NWS Storm Prediction Center you need to sign up for Facebook first.

Sign Up

It's free and anyone can join. Already a member? Log in.

SPC Multimedia Web Briefings

- Implemented for Moderate/High Risk Severe Weather Days
 - Supplement to the Public Severe Weather Outlook (PWO)
 - Recorded <u>once or twice per day</u> and available during the <u>early/mid morning hours</u>
 - Based on 06z and/or 13z Convective Outlooks
 - Viewable/downloadable movie file (MP4) from the SPC website

Storm Frediction Center

Norman, Uklahoma



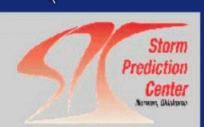
The Storm Prediction Center is forecasting a MODERATE potential for severe thunderstorms with damaging winds, large hall and a couple of strong tornadoes from Arkansas to Tennessee and Kentucky later today and well into Sunday night.

www.spc.noaa.gov

NOAA Storm Prediction Center Web Briefing

Sunday February 27, 2011 Recorded at 10:16 AM CST

















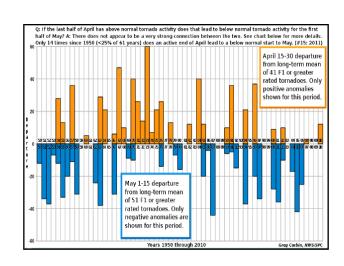
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Post-Event Analysis and Climatology

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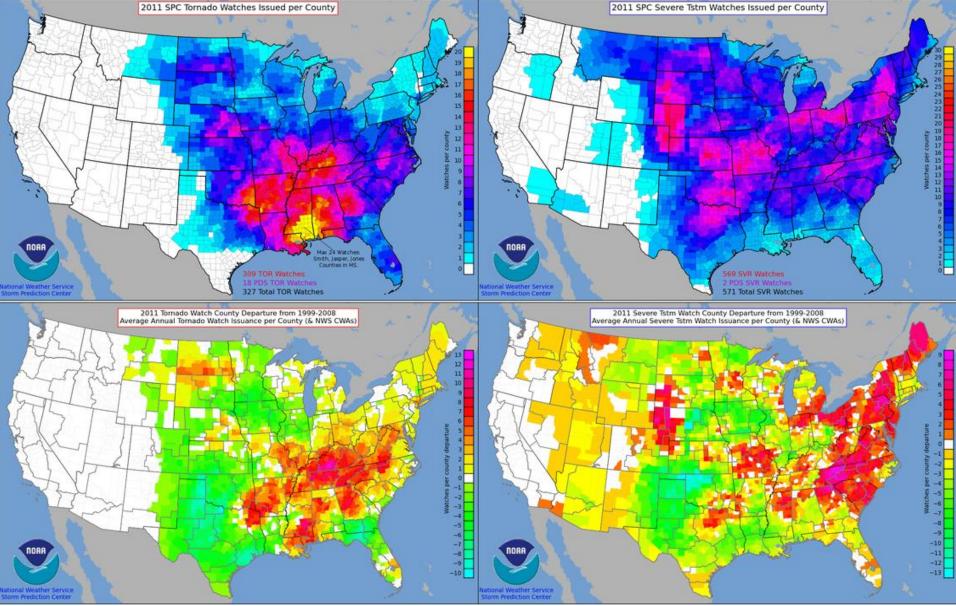
Post-Event and Analysis

- SPC can provide analysis and national/historical perspective on major events
 - Especially based on 2011, we have learned that there is a high demand for additional insight and historical context
- Historical Tornado data and analysis:
 spc.noaa.gov/wcm/

















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SPC Severe Weather Events Archive

Organization

Welcome to the Storm Prediction Center's Severe Weather Event Archive search engine and listing. The first event in this archive occurred on January 3, 2000. We continue to archive significant severe weather events through the present day based on a variety of conditions and thresholds. You can access those archived events by using the simple search engine below. When this page is first loaded, the listing shows the most recently archived events. You can list all the days in the archive by simply clicking on the "Retrieve Events" button below. When you click on a particular date in the archive listing you will be brought to the Severe Weather Event Review Page for that date. A left-hand menu with links to products, loops, and other data related to that particular severe weather event is available to browse a particular event, or you can move forward and backward across events by using the dated links at the top of the left hand menu of the Severe Weather Event Review Page. To return to this search page, use the "Search All Events" link at the bottom of the left-hand menu of any of the Severe Weather Event Review Page.

Many people have played important roles over the years in making this archive possible. You can see them credited on the acknowledgements page here]

The purpose of this resource is discussed in this *Introduction to the Archive*, available here. (Please note: we are in the process of determining new criteria for event case selection so the information on the introduction page may be a bit dated but will be updated to reflect the changes in case selection over the next few months.)

A resource like this requires continued support from users and those who benefit from the historic content that is maintained here. We certainly appreciate your feedback and suggestions but please understand that these pages and the data that they contain are **not** to be considered operationally supported on a 24-hour/7-days a week basis. Please provide us with your feedback via this link. Thank you.

Show archived events that meet the following criteria:

(To select multiple items in a menu, hold the Ctrl key) YEAR(S) MONTH(S) DAY(S) STATE(S) 2012 Jan 01 AK 2011 Feb 02 AL 2010 Mar 03 AR 2009 AZ Apr 04 CA 🔻 2008 -May ▼ 05 ₹

- Selected states in each event.
- Or, selected states in any event.

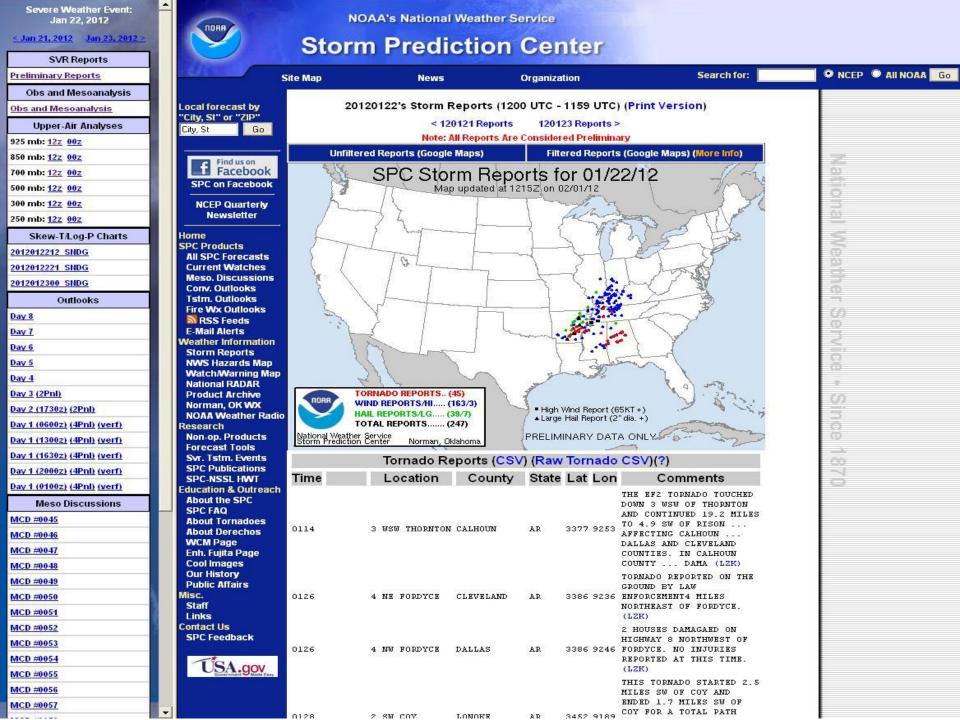
Retrieve Events Reset search

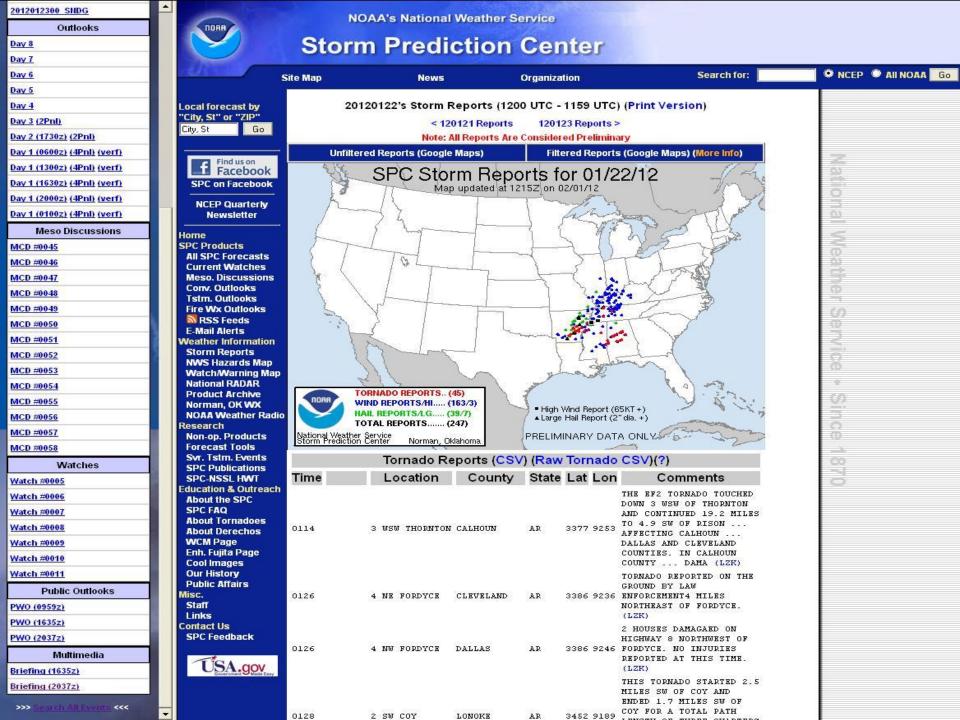
| Event Date | Day 1 Risk-Reports | States Affected |
|-------------------|--------------------|-----------------------------------|
| February 22, 2012 | SLGT-T0-W0-H0 | SLGT-T0-W0-H0 |
| February 20, 2012 | SLGT-T0-W22-H5 | OK, KS, MO |
| February 18, 2012 | SLGT-T3-W57-H8 | LA, AL, MS, FL, GA |
| February 01, 2012 | SLGT-T1-W35-H23 | OK, TX, AR, LA, MS |
| January 25, 2012 | SLGT-T8-W54-H2 | TX, LA, MS |
| January 23, 2012 | SLGT-T5-W12-H0 | AL, KY, OH |
| January 22, 2012 | MDT-T37-W160-H37 | AR, MO, IL, IN, KY, TN, MS, AL |
| January 21, 2012 | SLGT-T3-W24-H26 | AL. GA. SC. TN |

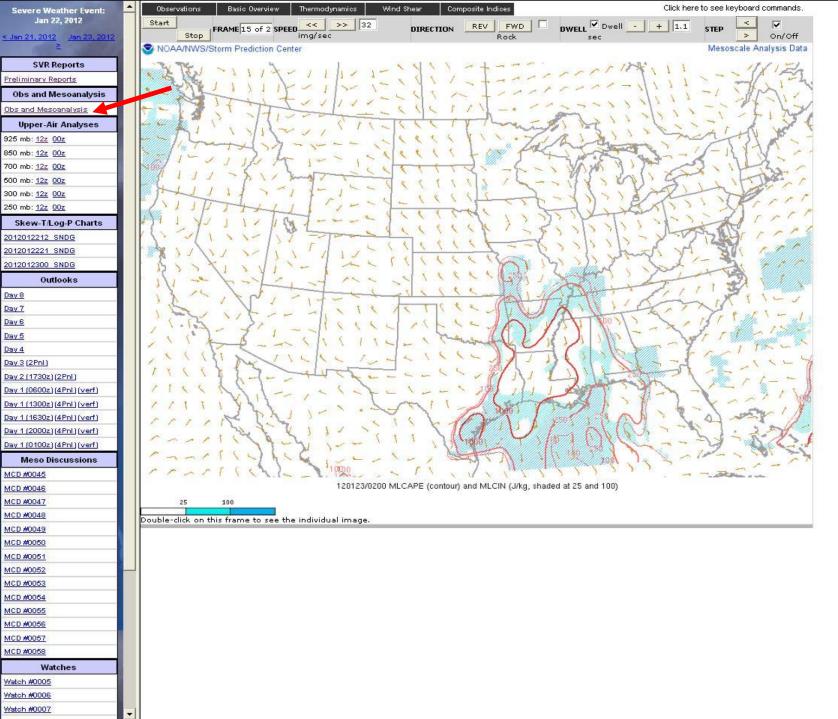
Severe Weather Events Archive

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925 mb: 12z 00z 850 mb: <u>12z 00z</u> 700 mb: <u>12z 00z</u> 500 mb: 12z 00z 300 mb: 12z 00z 250 mb: 12z 00z

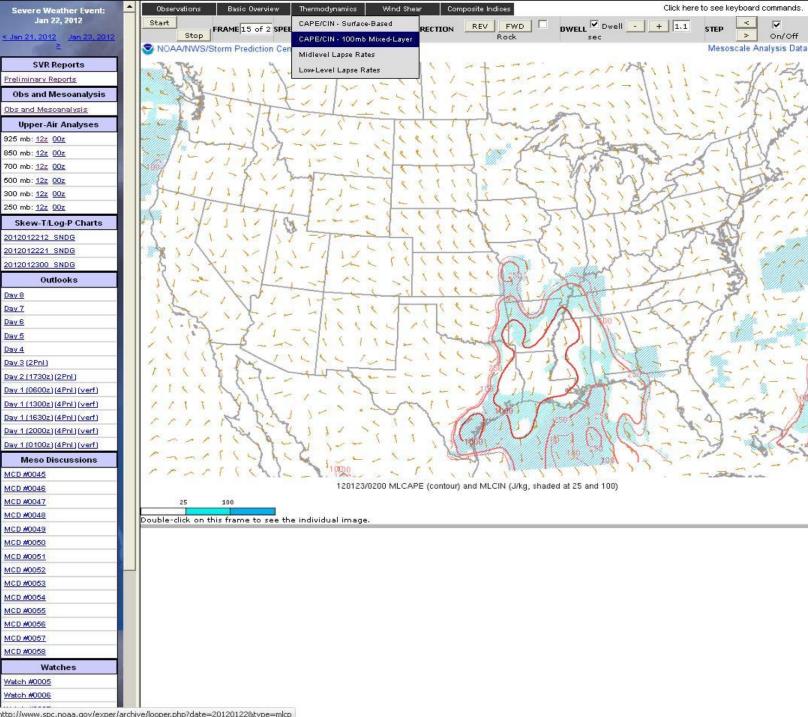
Day 8 Day 7 Day 6 Day 5 Day 4 Day 3 (2Pnl)

MCD #0045

MCD #0046 MCD #0047 MCD #0048

MCD #0049 MCD #0050 MCD #0051 MCD #0052 MCD #0053 MCD #0054 MCD #0055 MCD #0056 MCD #0057 MCD #0058

Watch #0005 Watch #0006 Watch #0007



http://www.spc.noaa.gov/exper/archive/looper.php?date=20120122&type=mlcp

Jan 22, 2012

SVR Reports

Preliminary Reports

Obs and Mesoanalysis

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2012012212 SNDG 2012012221 SNDG 2012012300 SNDG Outlooks

Day 8 Day 7 Day 6 Day 5 Day 4 Day 3 (2Pnl) Day 2 (1730z) (2Pnl)

MCD #0045

MCD #0046 MCD #0047 MCD #0048

MCD #0049 MCD #0050 MCD #0051 MCD #0052 MCD #0053 MCD #0054 MCD #0055 MCD #0056 MCD #0057 MCD #0058

Watch #0005 Watch #0006

Watches

Severe Weather Preparedness Videos

- NOAA Public Affairs in Norman and the Storm Prediction Center will soon introduce severe weather preparedness videos
 - Linked on the SPC Website
 - Available from the NOAA Weather Partners YouTube Channel

- Some highlights from the soon to be released...
 - You Tube "What's a Watch?"

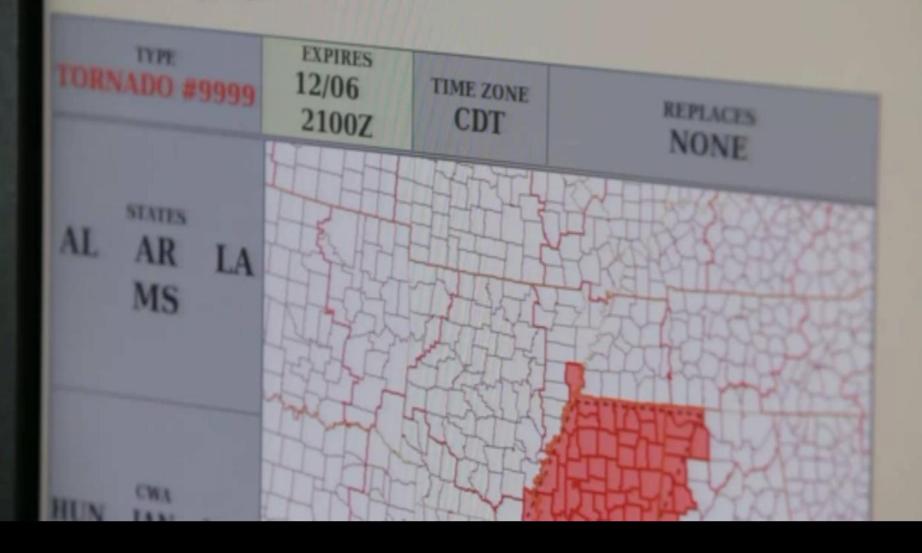






CURRENT WATCH NUMBER IS: 9999 or help

with watch process





cations

BASIC DISASTER SUPPLIES KIT

A basic emergency supply kit could include the following recommended items:

- Water, one gallon of water per person per day for at least three days, for drinking and sanitation
- Food, at least a three-day supply of non-perishable food
- Battery-powered or hand crank radio and a NOAA Weather Radio with tone alert and extra batteries for both
- Flashlight and extra batteries
- · First aid kit
- Whistle to signal for help

ready.gov

duct tape to shelter-in-place

stion

364

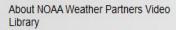
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Mar 1, 2012

Date Joined

Apr 1, 2009

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Will be available on the NOAA Weather Partners YouTube **Channel** and the **SPC** Website



Weather Ready Nation Recap

by NOAAWP 2 weeks ago

Featured Playlists

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Top Videos



National Severe Storms Lab

Videns that cover various aspects of the

Acknowledgements

• Corey Mead, John Hart, Jay Liang, Steve Weiss, and others of the SPC Staff

James Murnan and Keli Tarp





Product Updates and Service Improvements from the Storm Prediction Center (SPC)

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National Severe Weather Workshop March 1-3, 2012

